

REMARKS

Claims 1, 2, 10, 18, 19, 20, and 28 are amended. Claims 1-36 are pending in the application. Each issue raised in the Office Action mailed May 26, 2009 is addressed hereinafter.

INTERVIEW SUMMARY

The Examiner is thanked for discussing the final issues in this matter over the phone in an effort to advance this application towards a Notice of Allowance. The undersigned and Christopher J. Palermo, representing the applicants, held several telephone conferences with the examiner in the period of July 14-15, 2009. A proposed amendment and other claim language clarifying the error correction techniques were discussed. No agreement was reached on allowability. Each pending claim states that the “responding” is performed “to correct the error.” Correcting the error is accomplished by updating the maximum transmission unit or the minimum transmission unit. All claims are now believed to be in condition for allowance.

I. ISSUES RELATING TO PRIOR ART

A. CLAIMS 1-36—35 U.S.C. § 103(a): TALPADE, FAN

Claims 1-36 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent Application Publication No. 2004/0148520 (“Talpadé”) in view of U.S. Patent No. 6,219,706 (“Fan”). The rejection is respectfully traversed.

CLAIM 1

Claim 1 recites:

A method of preventing an attack on a network, the method comprising the computer-implemented steps of:
receiving an ICMP packet, wherein the ICMP packet carries a packet sequence value that is associated with a connection in a connection-oriented transport protocol, **and that identifies a transport protocol segment that caused a node to identify an error and to generate the ICMP packet in response to the error;**
obtaining the packet sequence value from the ICMP packet;
authenticating the ICMP packet by determining if the packet sequence value from the ICMP packet is valid; and
responding to the ICMP packet to correct the error by updating a maximum transmission unit value or a minimum transmission unit value associated with the connection only if the packet sequence value is determined to be valid;
wherein the steps of receiving, obtaining, authenticating, and responding are performed by one or more computing devices.

At least the above-bolded features are not shown in the art of record. In order to efficiently advance this application towards a Notice of Allowance, Applicant focuses this reply on a fundamental difference between the art of record and Claim 1. Even if the art of record could be combined, the art of record does not show “responding to the ICMP packet to correct the error by updating a maximum transmission unit value or a minimum transmission unit value associated with the connection only if the packet sequence value is determined to be valid.”

Talpade and Fan, individually or combined, do not show responding “to correct the error by updating a maximum transmission unit value or a minimum transmission unit value.” Also, Talpade and Fan do not show that the responding is performed “only if the packet sequence value is determined to be valid.”

Talpade mentions (par. [0017]) filtering “the traffic redirected from the border and edge routers, removing the DDoS traffic and forwarding all non-DDoS traffic back onto the ISP network 202 towards the customer network 204.” Quite unlike Talpade, Claim 1 features that

the error, which was identified by the node that generated the ICMP packet, is corrected by updating a maximum transmission unit value or a minimum transmission unit value associated with the connection. If the packet sequence value is invalid, a spoofed, or invalid, transport protocol segment may have caused the node to identify the error. Thus, the error is corrected only if the packet sequence value is determined to be valid.

Fan does not fill the gaps left by Talpade. Fan mentions (10:33-34) dropping a UDP or TCP packet if the “packet sequence number” does not fall “within a defined range of sequences.” Fan also mentions (10:49-51) updating “the current session state” if “the current packet indicates a state transition.” The session state can be “closed, opening, open, closing for TCP; opening, open, and closed for UDP)” (14:33-35). Fan does not even mention ICMP packets, which are the subject of Claim 1. Fan does not show “responding to the ICMP packet to correct the error by updating a maximum transmission unit value or a minimum transmission unit value associated with the connection only if the packet sequence value is determined to be valid,” as featured in Claim 1.

Even if combined, Talpade and Fan do not discuss an error identified by a node that generated an ICMP packet. Further, the combination of Talpade and Fan do not discuss responding to correct the error by updating a maximum transmission unit value or a minimum transmission unit value associated with the connection. Also, Talpade and Fan do not show that the responding to correct the error is performed only if the packet sequence value is determined to be valid. Thus, even if Fan and Talpade could be combined as asserted in the Office Action, the combination would fail to show substantial features of Claim 1.

One or more substantial features of Claim 1 are completely missing from the references and would not have been obvious from the references. Accordingly, Applicant respectfully requests withdrawal of the rejection. Claim 1 is believed to be in condition for allowance.

CLAIM 10

Claim 10 features “responding to the ICMP packet to correct the error by updating a maximum transmission unit (MTU) value associated with the TCP connection only if the packet sequence number is determined to be valid,” which is similar to the feature already discussed with respect to Claim 1. Therefore, Claim 10 is patentable over the art of record for at least those reasons stated with respect to Claim 1. Applicant respectfully requests withdrawal of the rejection. Claim 10 is believed to be in condition for allowance.

CLAIMS 18, 19, AND 28

Claims 18, 19, and 28 feature a limitation similar to the limitation already discussed with respect to Claim 1. Claims 18, 19, and 28 are patentable over the art of record for at least those reasons stated with respect to Claim 1. Applicant respectfully requests withdrawal of the rejection. Claims 18, 19, and 28 are believed to be in condition for allowance.

DEPENDENT CLAIMS

The remaining claims depend from one of the independent claims already discussed and are patentable for at least those reasons stated with respect to the corresponding independent claim. In order to efficiently advance this application towards a Notice of Allowance, additional features in the dependent claims are not addressed at this time. All dependent claims are believed to be in condition for allowance.

III. CONCLUSIONS & MISCELLANEOUS

For the reasons set forth above, all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone relating to any issue that would advance examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a check for the petition for extension of time fee and other applicable fees is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,
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